



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/707,664

12/31/2003

Ivan Yang-En Wu

7635-US-PA

1663

31561

7590

06/02/2005

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE  
7 FLOOR-1, NO. 100  
ROOSEVELT ROAD, SECTION 2  
TAIPEI, 100  
TAIWAN

EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,664	<b>Applicant(s)</b> WU ET AL.	
	<b>Examiner</b> Tarifur R. Chowdhury	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-18, 20 is/are rejected.
- 7) ☒ Claim(s) 13, 14 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

C

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Objections*

3. Claims 9, 15, 18 and 19 are objected to because of the following informalities:  
  
In claims 9 and 15, "electrical" should be changed to –electrically--.  
  
In claim 18, "the first/second thin film transistor" lacks antecedent basis.  
  
In claim 19, "the second transparent electrode" lacks antecedent basis.
4. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 9, 10, 15 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al., (Wang), USPAT 6,714,268.**

7. Wang discloses and shows in Fig. 3, a dual mode liquid crystal display device (abstract), comprising:

- a lower substrate (311);
- an upper substrate (321) having a first thin film transistor (T3) and a first transparent electrode (345) electrically connected to the first thin film transistor, a second thin film transistor (T2) and a regional light-emitting source (combination of layers 339, 341 and 343) electrically connected with the second thin film transistor; and
- a liquid crystal layer (315) between the upper substrate and the lower substrate.

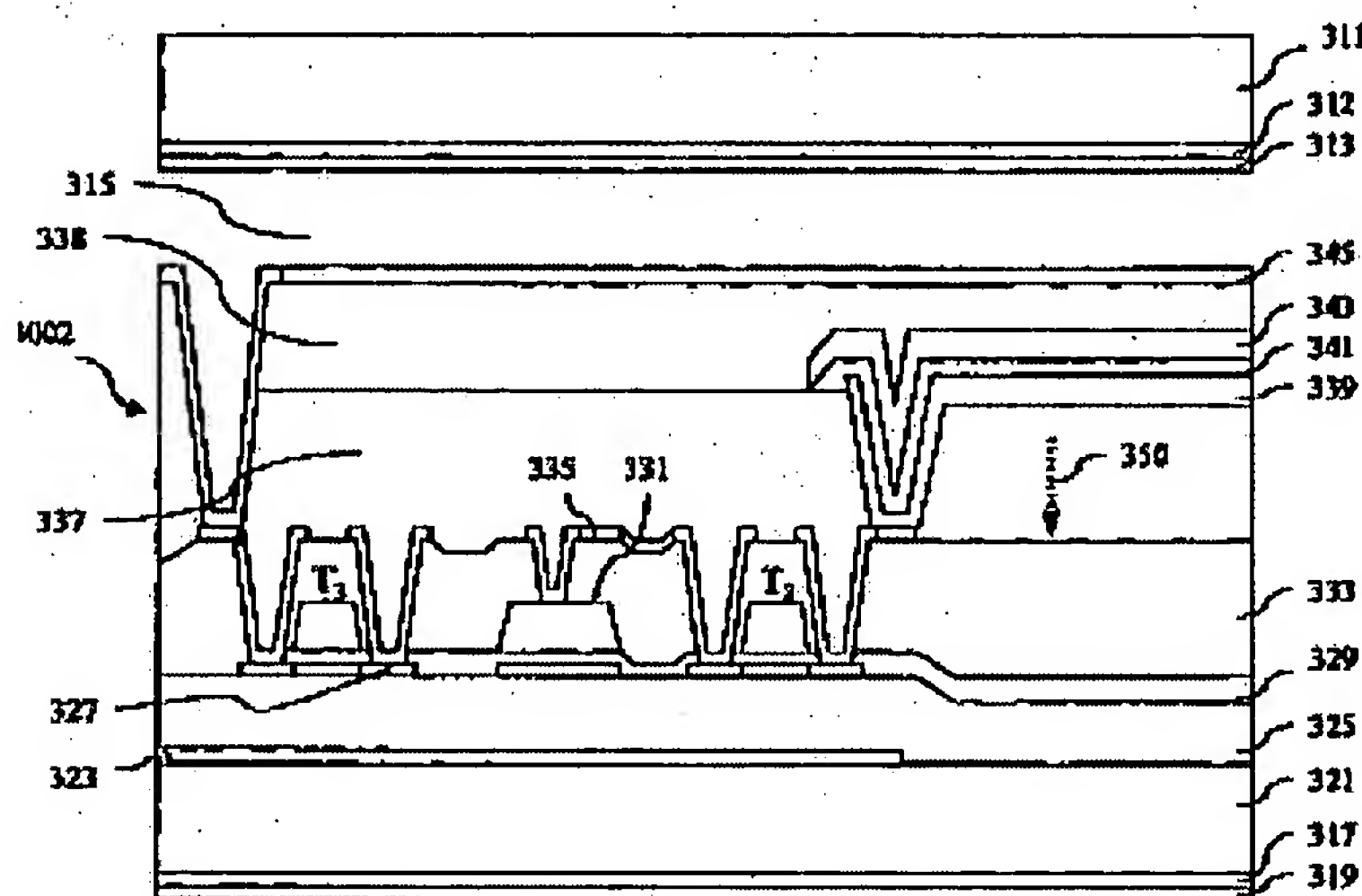


FIG. 3

Accordingly, claims 9 and 10 are anticipated.

As to claims 15 and 16, numeral (339) is considered as a first transparent electrode and a regional light source (combination of layers 341 and 343) electrically connected to the first transparent electrode.

Art Unit: 2871

8. **Claims 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Itou et al., (Itou), USPAT 6,556,260.**

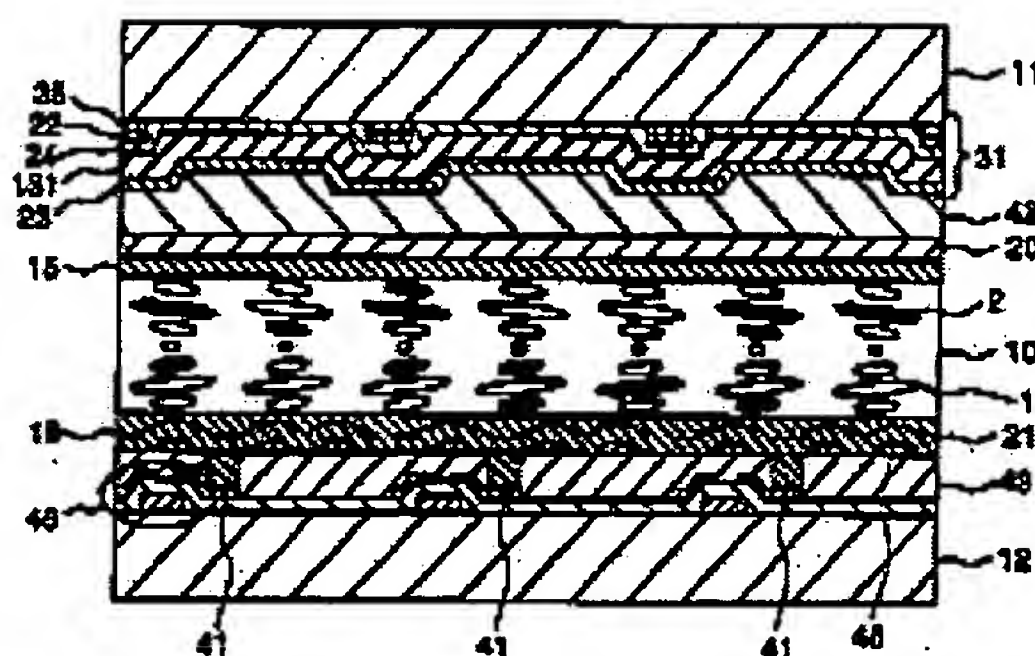
9. Itou discloses and shows in Fig. 1, a dual mode liquid crystal display device, comprising:

- an upper substrate (11) having a first transparent electrode (23) and a regional light source (combination of layers 131, 24, 22, 35) electrically connected to the first transparent electrode;
- a lower substrate (12) having a second electrode (21); and
- a liquid crystal layer (10) between the upper substrate and the lower substrate.

Accordingly, claims 15 and 16 are anticipated.

U.S. Patent Apr. 29, 2003 Sheet 1 of 15 US 6,556,260 B1

**FIG. 1**



As to claim 17, it is clear from Fig. 1 and the disclosure of Itou that the first transparent electrode (23) serve as an anode for the light-emitting diode and the light-emitting diode further includes:

- a light-emitting layer (131) on a surface of the first transparent electrode facing the lower substrate (12); and

- a cathode (22) on the light-emitting layer facing the lower substrate.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**12. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang.**

13. Wang discloses and shows in Fig. 4, a dual mode liquid crystal display device, comprising:

- an upper substrate;
- a lower substrate (321) comprising a first thin film transistor (T3), a second thin film transistor (T2), an electrode (345) connected to the first thin film

Art Unit: 2871

- transistor (T3), and a regional light-emitting source (combination of layers 339, 341 and 343) connected to the second thin film transistor (T2); and
- a liquid crystal layer (315) between the upper substrate and the lower substrate.

Wang further shows that a reflective layer (412) is formed on the lower substrate (321).

Wang differs from the claimed invention because he does not explicitly disclose that the electrode layer (345) is reflective. However, it is common and known in the art to reduce extra layers and thus obtain a compact and thin device that is light weight and cheap to manufacture. Further, using a reflective electrode instead of a combination of a reflective layer and an electrode is also common and known. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of Wang by eliminating the reflective layer and using a reflective electrode instead of the electrode (345) in order to obtain a compact device that is thin and light weight.

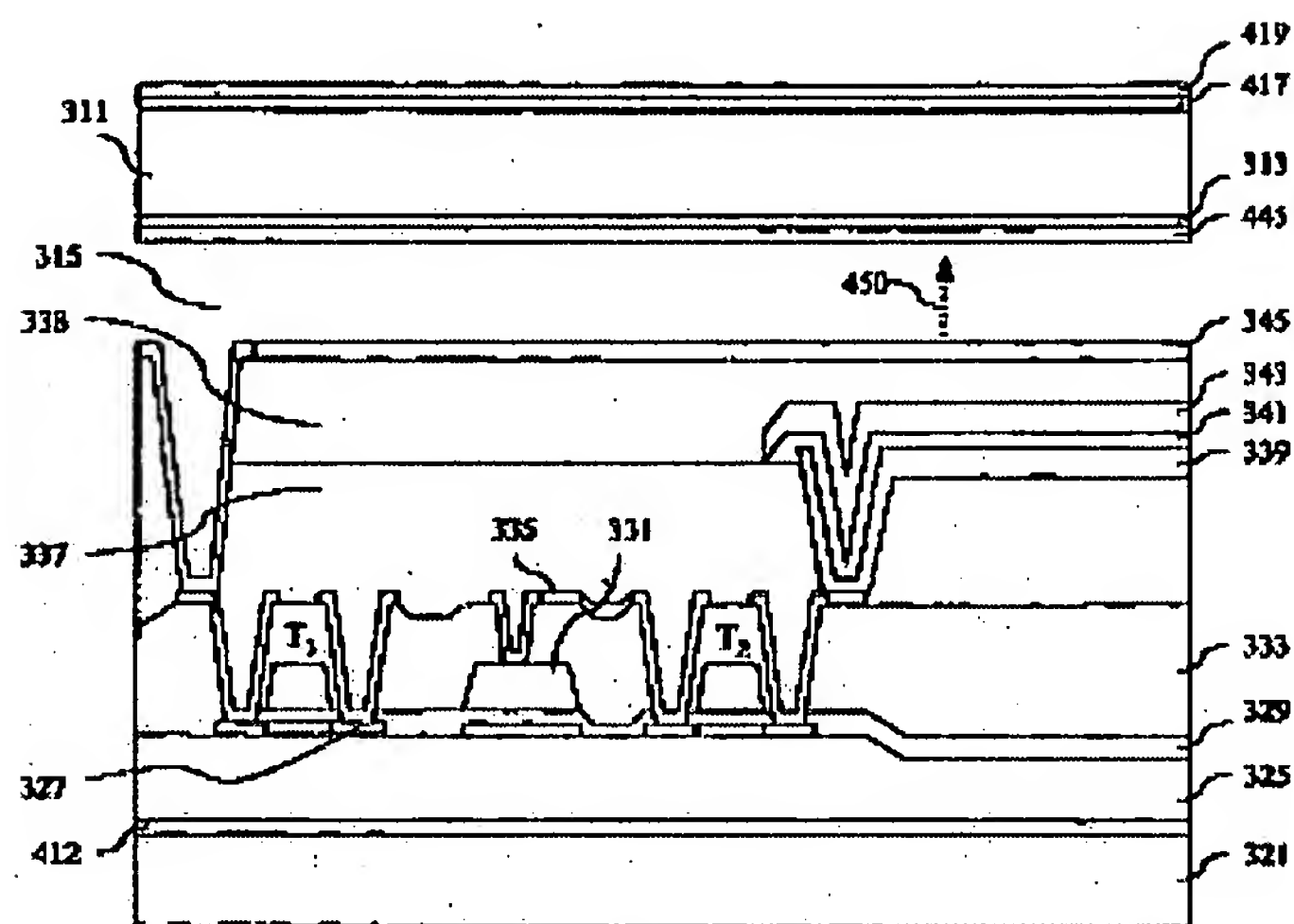


FIG. 4

Accordingly, claims 1 and 4 would have been obvious.

As to claims 2 and 3, Wang also shows in Fig. 4 that the upper substrate of the display device further includes:

- a substrate (311);
- a color-filtering array (313) on one surface of the substrate; and
- a first transparent electrode (445) on the surface of the color-filtering layer;
- a polarizer plate (419) and
- a quarter-wave plate (417) on a substrate surface just opposite the color-filtering array.

As to claim 5, Wang also discloses and shows in Fig. 4 that the light-emitting diode further includes:

- a cathode (343) on the lower substrate;
- a light-emitting layer (341) on the cathode; and



Art Unit: 2871

- a second transparent electrode (339) on the light-emitting layer , wherein the second electrode serves as an anode.

As to claim 6, it is clear from Fig. 4 of Wang that the electrode (445) is set up on a layer (338) (applicant's bumpy layer).

As to claims 7 and 8, it is also clear from the disclosure as well as Fig. 4 of Wang that the first thin film transistor (T3) and the electrode (445), the second thin film transistor (T2) and the regional light-emitting source are formed in a pixel region.

**14. Claims 11, 12, 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang.**

15. As to claims 11 and 17, Wang discloses and shows in Fig. 3 that the light-emitting diode further includes:

- a light-emitting layer (341) on a surface of the electrode (339); and
- a cathode (343) on the light-emitting layer facing the lower substrate.

Wang differs from the claimed invention because he does not explicitly disclose that a portion of the first transparent electrode serves as an anode for the light-emitting diode. However, it is common and known in the art to eliminate extra layers and thus obtain a device that is thin and light weight. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of Wang by eliminating the layer (345) and extending the anode (339) so that it is also connected to the first thin film transistor (T3) and working as the first transparent electrode (pixel electrode) to obtain a display device that is thin and light-weight.

As to claims 12 and 18, Wang further shows in Fig. 3 that the upper substrate further includes a quarter-wave plate (317) on one surface of the substrate (321) and a polarizer plate (319) on the quarter-wave plate.

As to claim 20, Wang also discloses that the reflective liquid crystal display device serves as the principal display device when the background light intensity is strong and the regional light-emitting source serves as the principal display device when the background light intensity is weak (col. 5, lines 14-30).

#### ***Allowable Subject Matter***

16. Claims 13, 14 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

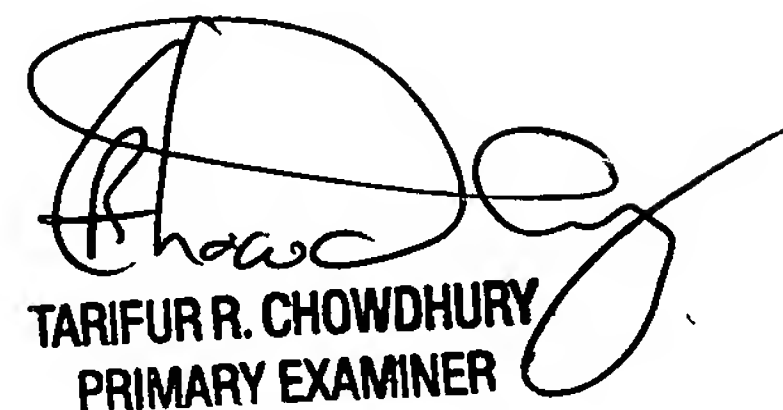
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC  
May 23, 2005



TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER